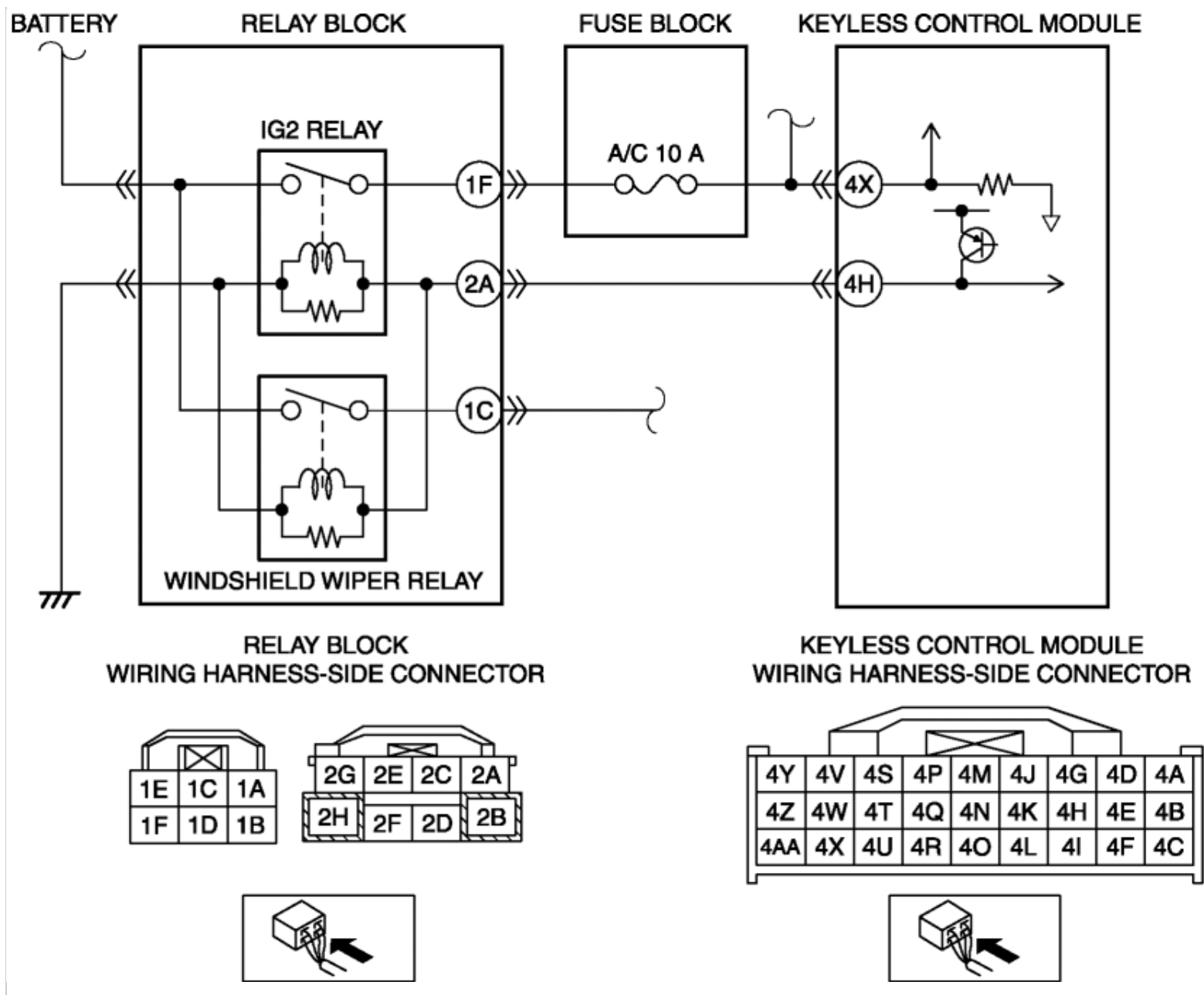


2012 - Mazda6 - Body and Accessories

DTC B112A:17 [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]

|                     |                                                                                                                                                                                                                                                                                             |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DETECTION CONDITION | IG2 monitor input circuit voltage higher than threshold (2.2—6.5 V) is detected for 1 s, while IG2 relay output circuit is not active                                                                                                                                                       |
| POSSIBLE CAUSE      | <ul style="list-style-type: none"><li>• Connector or terminal malfunction</li><li>• Short to power supply in wiring harness between relay block terminal 1F and keyless control module terminal 4X</li><li>• Relay block malfunction</li><li>• Keyless control module malfunction</li></ul> |



## Diagnostic Procedure

| Step | Inspection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Action                                                                                                                                                                           |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | <p><b>PERFORM DTC INSPECTION</b></p> <ul style="list-style-type: none"> <li>Clear the DTC from keyless control module memory using the M-MDS.</li> </ul> <p>(See <a href="#">CLEARING DTC [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]</a> .)</p> <ul style="list-style-type: none"> <li>Perform the advanced keyless entry and push button start system DTC inspection using the M-MDS.</li> </ul> <p>(See <a href="#">DTC INSPECTION [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]</a> .)</p> | <p>Yes Perform the DTC B112A:12 inspection.</p> <p>(See <a href="#">DTC B112A:12 [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]</a> .)</p> <p>No Go to the next step.</p> |

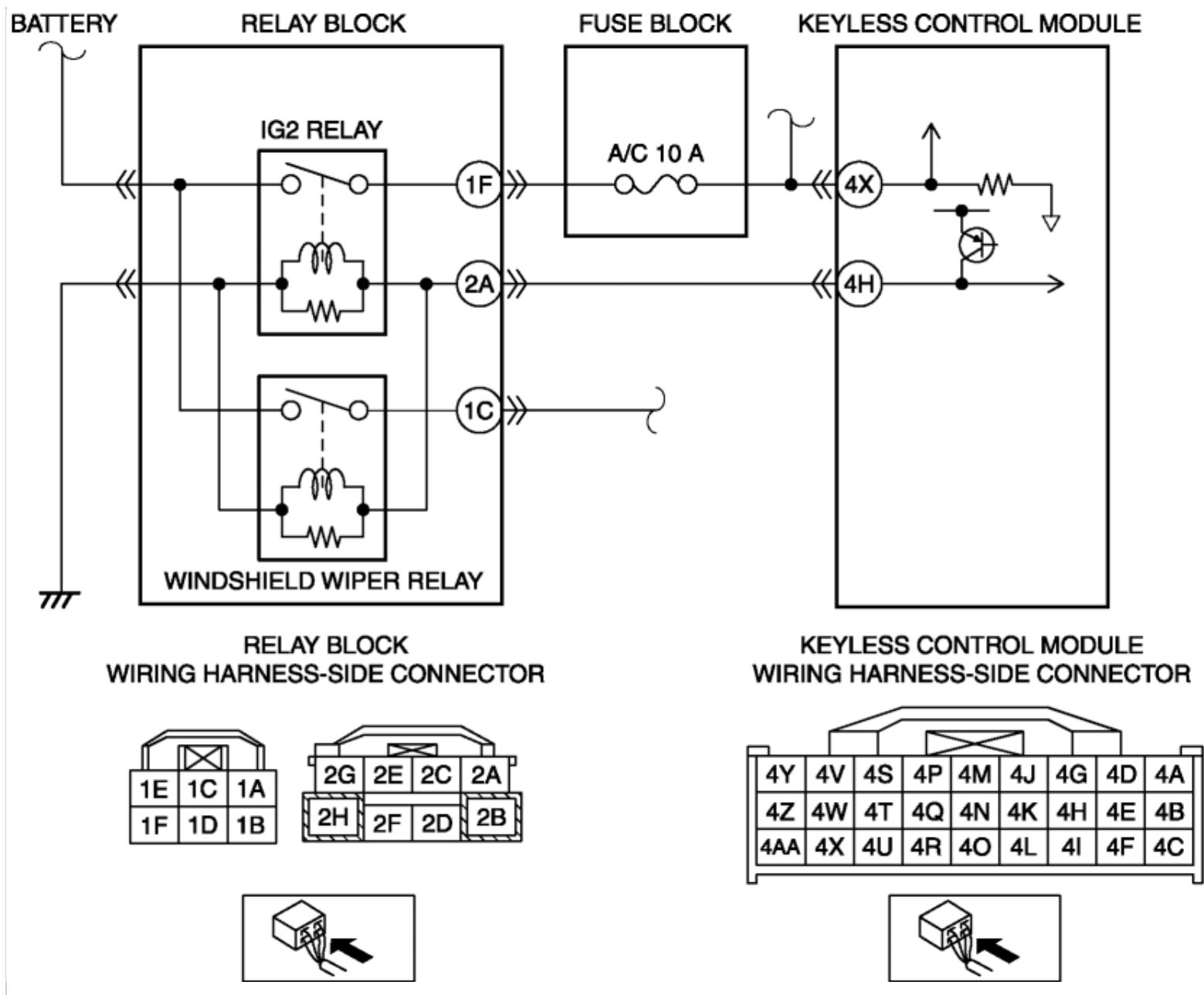
|   |                                                                                                                                                                                                                                                                                                                                                            |     |                                                                                                                                                                       |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <p><b>START SYSTEM] .)</b></p> <ul style="list-style-type: none"> <li>Is the DTC B112A:12 present?</li> </ul>                                                                                                                                                                                                                                              |     |                                                                                                                                                                       |
| 2 | <p><b>INSPECT RELAY BLOCK CONNECTOR CONDITION</b></p> <ul style="list-style-type: none"> <li>Switch the ignition to off.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the relay block connector.</li> <li>Inspect the connector and terminals (corrosion, damage, pin disconnection).</li> <li>Is there any malfunction?</li> </ul> | Yes | Repair or replace the connector or terminals, then go to Step 6.                                                                                                      |
|   |                                                                                                                                                                                                                                                                                                                                                            | No  | Go to the next step.                                                                                                                                                  |
| 3 | <p><b>INSPECT KEYLESS CONTROL MODULE CONNECTOR CONDITION</b></p> <ul style="list-style-type: none"> <li>Disconnect the keyless control module connector.</li> <li>Inspect the connector and terminals (corrosion, damage, pin disconnection).</li> <li>Is there any malfunction?</li> </ul>                                                                | Yes | Repair or replace the connector or terminals, then go to Step 6.                                                                                                      |
|   |                                                                                                                                                                                                                                                                                                                                                            | No  | Go to the next step.                                                                                                                                                  |
| 4 | <p><b>INSPECT IG2 MONITOR INPUT CIRCUIT FOR SHORT TO POWER SUPPLY</b></p> <ul style="list-style-type: none"> <li>Reconnect the negative battery cable.</li> <li>Switch the ignition to ON.</li> <li>Measure the voltage between keyless control module terminal 4X (wiring harness-side) and body ground.</li> <li>Is there any voltage?</li> </ul>        | Yes | Repair or replace the wiring harness for a possible short to power supply, then go to Step 6.                                                                         |
|   |                                                                                                                                                                                                                                                                                                                                                            | No  | Go to the next step.                                                                                                                                                  |
| 5 | <p><b>INSPECT RELAY BLOCK</b></p> <ul style="list-style-type: none"> <li>Switch the ignition to off.</li> <li>Disconnect the negative battery cable.</li> <li>Inspect the relay block.</li> <li>(See <b>RELAY BLOCK INSPECTION [WITH ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM] .)</b></li> <li>Is there any malfunction?</li> </ul>             | Yes | Replace the relay block, then go to the next step.<br><br>(See <b>RELAY BLOCK REMOVAL/ INSTALLATION [WITH ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM] .)</b> |
|   |                                                                                                                                                                                                                                                                                                                                                            | No  | Go to the next step.                                                                                                                                                  |
| 6 | <p><b>VERIFY TROUBLESHOOTING</b></p>                                                                                                                                                                                                                                                                                                                       | Yes | Repeat the inspection from Step 1.                                                                                                                                    |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |     |                                                                                                                                                                                                                          |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <p><b>COMPLETED</b></p> <ul style="list-style-type: none"><li>• Make sure to reconnect the disconnected connectors.</li><li>• Reconnect the negative battery cable.</li><li>• Clear the DTC from keyless control module memory using the M-MDS.</li></ul> <p>(See <b>CLEARING DTC [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]</b> .)</p> <ul style="list-style-type: none"><li>• Perform the advanced keyless entry and push button start system DTC inspection using the M-MDS.</li></ul> <p>(See <b>DTC INSPECTION [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]</b> .)</p> <ul style="list-style-type: none"><li>• Is the same DTC present?</li></ul> |     | <p>If the malfunction recurs, replace the keyless control module, then go to the next step.</p> <p>(See <b>KEYLESS CONTROL MODULE REMOVAL/ INSTALLATION [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]</b> .)</p> |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | No  | Go to the next step.                                                                                                                                                                                                     |
| 7 | <p><b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b></p> <ul style="list-style-type: none"><li>• Are any DTCs present?</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Yes | Go to the applicable DTC inspection.                                                                                                                                                                                     |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | No  | DTC troubleshooting completed.                                                                                                                                                                                           |

2012 - Mazda6 - Body and Accessories

DTC B112A:17 [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]

|                     |                                                                                                                                                                                                                                                                                             |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DETECTION CONDITION | IG2 monitor input circuit voltage higher than threshold (2.2—6.5 V) is detected for 1 s, while IG2 relay output circuit is not active                                                                                                                                                       |
| POSSIBLE CAUSE      | <ul style="list-style-type: none"><li>• Connector or terminal malfunction</li><li>• Short to power supply in wiring harness between relay block terminal 1F and keyless control module terminal 4X</li><li>• Relay block malfunction</li><li>• Keyless control module malfunction</li></ul> |



## Diagnostic Procedure

| Step | Inspection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Action                                                                                                                                                                           |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | <p><b>PERFORM DTC INSPECTION</b></p> <ul style="list-style-type: none"> <li>Clear the DTC from keyless control module memory using the M-MDS.</li> </ul> <p>(See <a href="#">CLEARING DTC [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]</a> .)</p> <ul style="list-style-type: none"> <li>Perform the advanced keyless entry and push button start system DTC inspection using the M-MDS.</li> </ul> <p>(See <a href="#">DTC INSPECTION [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]</a> .)</p> | <p>Yes Perform the DTC B112A:12 inspection.</p> <p>(See <a href="#">DTC B112A:12 [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]</a> .)</p> <p>No Go to the next step.</p> |

|   |                                                                                                                                                                                                                                                                                                                                                                                       |     |                                                                                                                                                                       |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <p><b>START SYSTEM] .)</b></p> <ul style="list-style-type: none"> <li>Is the DTC B112A:12 present?</li> </ul>                                                                                                                                                                                                                                                                         |     |                                                                                                                                                                       |
| 2 | <p><b>INSPECT RELAY BLOCK CONNECTOR CONDITION</b></p> <ul style="list-style-type: none"> <li>Switch the ignition to off.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the relay block connector.</li> <li>Inspect the connector and terminals (corrosion, damage, pin disconnection).</li> <li>Is there any malfunction?</li> </ul>                            | Yes | Repair or replace the connector or terminals, then go to Step 6.                                                                                                      |
|   |                                                                                                                                                                                                                                                                                                                                                                                       | No  | Go to the next step.                                                                                                                                                  |
| 3 | <p><b>INSPECT KEYLESS CONTROL MODULE CONNECTOR CONDITION</b></p> <ul style="list-style-type: none"> <li>Disconnect the keyless control module connector.</li> <li>Inspect the connector and terminals (corrosion, damage, pin disconnection).</li> <li>Is there any malfunction?</li> </ul>                                                                                           | Yes | Repair or replace the connector or terminals, then go to Step 6.                                                                                                      |
|   |                                                                                                                                                                                                                                                                                                                                                                                       | No  | Go to the next step.                                                                                                                                                  |
| 4 | <p><b>INSPECT IG2 MONITOR INPUT CIRCUIT FOR SHORT TO POWER SUPPLY</b></p> <ul style="list-style-type: none"> <li>Reconnect the negative battery cable.</li> <li>Switch the ignition to ON.</li> <li>Measure the voltage between keyless control module terminal 4X (wiring harness-side) and body ground.</li> <li>Is there any voltage?</li> </ul>                                   | Yes | Repair or replace the wiring harness for a possible short to power supply, then go to Step 6.                                                                         |
|   |                                                                                                                                                                                                                                                                                                                                                                                       | No  | Go to the next step.                                                                                                                                                  |
| 5 | <p><b>INSPECT RELAY BLOCK</b></p> <ul style="list-style-type: none"> <li>Switch the ignition to off.</li> <li>Disconnect the negative battery cable.</li> <li>Inspect the relay block.</li> </ul> <p>(See <b>RELAY BLOCK INSPECTION [WITH ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM] .)</b></p> <ul style="list-style-type: none"> <li>Is there any malfunction?</li> </ul> | Yes | Replace the relay block, then go to the next step.<br><br>(See <b>RELAY BLOCK REMOVAL/ INSTALLATION [WITH ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM] .)</b> |
|   |                                                                                                                                                                                                                                                                                                                                                                                       | No  | Go to the next step.                                                                                                                                                  |
| 6 | <p><b>VERIFY TROUBLESHOOTING</b></p>                                                                                                                                                                                                                                                                                                                                                  | Yes | Repeat the inspection from Step 1.                                                                                                                                    |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     |                                                                                                                                                                                                                   |
|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <b>COMPLETED</b> <ul style="list-style-type: none"><li>• Make sure to reconnect the disconnected connectors.</li><li>• Reconnect the negative battery cable.</li><li>• Clear the DTC from keyless control module memory using the M-MDS.<br/><br/>(See <b>CLEARING DTC [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]</b> .)</li><li>• Perform the advanced keyless entry and push button start system DTC inspection using the M-MDS.<br/><br/>(See <b>DTC INSPECTION [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]</b> .)</li><li>• Is the same DTC present?</li></ul> |     | If the malfunction recurs, replace the keyless control module, then go to the next step.<br><br>(See <b>KEYLESS CONTROL MODULE REMOVAL/ INSTALLATION [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]</b> .) |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | No  | Go to the next step.                                                                                                                                                                                              |
| 7 | <b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"><li>• Are any DTCs present?</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Yes | Go to the applicable DTC inspection.<br><br>(See <b>DTC TABLE [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]</b> .)                                                                                        |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | No  | DTC troubleshooting completed.                                                                                                                                                                                    |